

## **SAFETY COMMISSION AGENDA STATEMENT**

Item 8  
Meeting Date 09/13/07

**ITEM TITLE:** Report on Request for an All-Way Stop at the Intersection of Oleander Avenue and Tamarack Court.

**SUBMITTED BY:** Jim Newton, Principal Civil Engineer *JN*

Staff received a written request from Ms. Evelyn Sanchez, who resides at 502 Tamarack Court, requesting the installation of an all-way stop at Oleander Avenue and Tamarack Court. Ms. Sanchez feels that this intersection is unsafe for motorists, and residents living near this intersection have experienced rear-end accidents and near misses due to excessive speeds of vehicles traveling on Oleander Avenue. Staff has conducted a study of the intersection and has included our findings in this report to the Safety Commission for consideration.

### **RECOMMENDATION:**

That the Safety Commission concur with staff's recommendation to deny the installation of all-way stop control at this intersection and approve the installation of two stop signs, limit lines, "STOP" legends on Tamarack Court and Tamarack Street approaching Oleander Avenue, and paint red curb on Oleander Avenue near the intersection.

### **DISCUSSION:**

On July 19, 2007, staff received a letter from Ms. Evelyn Sanchez requesting the installation of all-way stop control at the intersection of Oleander Avenue and Tamarack Court. Staff conducted a preliminary all-way stop warrant study (Council Policy #478-03) at this intersection and the results of the study are presented below.

The intersection of Oleander Avenue and Tamarack Court / Tamarack Street is a four-legged intersection. Oleander Avenue is a Class III Collector roadway and is 40' wide curb-to-curb with two lanes, one lane each direction. Oleander Avenue is striped with a double yellow centerline and parking is delineated with white painted lines on both sides of this roadway. The total daily approach traffic volume is 2,147, with a posted speed limit of 25 mph, and 85<sup>th</sup> percentile speeds of 34 mph for both northbound and southbound directions of travel. East of Oleander Avenue, Tamarack Court is a two-lane (one lane each direction) residential street, 36' wide curb-to-curb, with parking allowed on both sides of the street. West of Oleander Avenue, Tamarack Street is also a residential street with two lanes (one lane each direction), 36' wide curb-to-curb, with parking allowed on both sides of this street. Currently there are no existing stop signs on either Tamarack Court or Tamarack Street at the intersection of Oleander Avenue. Volumes for both Tamarack Court and Street were estimated by counting the total number of residential houses that may pass through the intersection when traveling to and from their home, and applying the SANDAG trip generation rate of 10 trips per residence. With 84 residences west of Oleander and 60 east of Oleander,

estimated traffic volumes for Tamarack Street and Tamarack Court are 840 and 600 trips per day respectively. Peak hour volumes were determined, again, in accordance with the SANDAG Trip Generate Rate guidelines stating for residential trips, 8% of the total daily volume is equal to the morning peak hour volume and 10% of the total daily volume is equal to the afternoon peak hour volume. Please see the All Way Stop Warrant study Traffic Volume section for the peak hour volumes of each street.

When considering an intersection for an all-way stop control, several factors are studied to determine the need for an installation. Pedestrian and vehicle volumes, accident history, along with physical factors such as sight distances, vehicle speed, roadway alignment (such as horizontal and vertical curves), and topography, are all taken into consideration.

A review of the accident history for this intersection shows no reported accidents at this location within the past three years.

**All-Way Stop Warrant Study:**

The Council Policy regarding all-way stop warrant evaluation was applied and the subject intersection has been awarded points based on the following:

**Physical Conditions:**

The following table shows the existing conditions for the streets at this intersection:

Street	Oleander Avenue	Tamarack Ct./St.
Direction/Width	North-South/40'	East-West/36'
ADT Approaching only	2,147 (2005)	840 (E) on Tamarack Street 600 (E) on Tamarack Court
Exist. Speed limit	25 mph (Posted)	25 mph (prima facie, not posted)
85 <sup>th</sup> % speed	34 mph (southbound) 34 mph (northbound)	Unknown
Number of Lanes	One lane in each direction	One lane in each direction
Striping	Double yellow centerline & 8' wide parking striping	None
On-Street Parking	Allowed	Allowed
Classification	Class III Collector	Residential
Vertical Alignment	NB approach, - 6.93% grade SB approach + 7.30 % grade	EB approach, -3.50% grade WB approach, -3.25% grade
Horizontal Alignment	NB: Tangent SB: 400' Radius, begins 50' north of the intersection	Tangent
Other conditions		

(E) = Estimated

An all-way stop warrant evaluation was conducted and the subject intersection was awarded a total of 27 points based on the following conditions:

**Accident History: (0 points assigned out of a maximum of 25 points)**

- 0 points were assigned because there were no reported, correctible accidents prior to the investigation date.

**Unusual Conditions: (12 points assigned out of a maximum 21 points)**

- 5 points were assigned for required sight distance being less than 60%.
  - 3 points were assigned for grade greater than 7% near the intersection.
  - 4 points were assigned for prevailing speed of unstopped approaches being up to 5 mph higher than the posted or prima facie speed limit.
- \*\* It should be noted that Valle Lindo Elementary School is in the general area, but is not close enough to warrant any "Unusual Condition" points.

**Pedestrian Volume: (4 points assigned out of a maximum 20 points)**

- 4 points were assigned.

\*\* Note: Staff observed pedestrian habits in the area during peak pedestrian hours (school dismissal time, 2:30 – 3:30 p.m.) and noticed the vast majority of pedestrians crossing Oleander, the major street, did so at Sequoia Street. When observing the intersection of Tamarack and Oleander, staff witnessed no pedestrians crossing Oleander, but felt obligated to assign points for some pedestrian activity at the intersection. As a result, staff awarded points for the smallest amount of pedestrians described by the policy: 1-10 pedestrians in the peak hour.

**Traffic Volume: (4 points assigned out of a maximum of 24 points)**

- 4 points were assigned for the following hours:
  - 4 hours were estimated to have a vehicular volume of 500 or more entering the intersection from all approaches, but with less than a 100 vehicles from the minor approach.

**Traffic Volume Difference: (7 points assigned out of a maximum 10 points)**

- 7 points were assigned because of the intersection volume ratio. Tamarack Court and Tamarack Street approach volumes are 67% of the approach volumes on Oleander Avenue.

**Intersection Sight Distance:**

When investigating sight distance measurements, field measurements are compared to the required stopping sight distance values, as listed in the City of Chula Vista Design Standard TR07-A. The following table summarizes our findings:

Street Name	Direction of Traffic	Speed Limit (Oleander Avenue)	85th% Speed (Oleander Avenue)	Required Sight Distance	Measured Sight Distance (Tamarack Ct.)***	Adequate
*Oleander Avenue	NB SB	25 mph	34 mph NB 34 mph SB	240' 240'	135' ** 155' **	No No

\* These vehicles are traveling on Oleander Avenue being viewed from Tamarack Ct. or Tamarack Street by motorists stopped behind the curb return or cross gutter.

\*\* Assumes vehicles are parked near the intersection on Oleander Avenue

\*\*\* The shortest sight distance of the two approaching leg

Motorists traveling westbound on Tamarack Court, wishing to enter Oleander Avenue, have 155' and 135' of available sight distance when looking toward southbound and northbound traffic, respectively. Motorists traveling eastbound on Tamarack Street, wishing to enter Oleander Avenue, have 200' and 154' of available sight distance when looking toward southbound and northbound traffic, respectively. These measured sight distances are not adequate for the 85<sup>th</sup> percentile speeds of 34 mph southbound (240' of stopping sight distance is required). This limited sight distance is mainly due to the on-street parking spaces located immediately adjacent to Tamarack Court and Tamarack Street and the topography of Oleander Avenue.

In order to get the required sight distance of 240' for motorists on Tamarack Court or Tamarack Street wishing to enter Oleander Avenue, a minimum of 10 parking spaces must be eliminated on Oleander Avenue near the intersection. During the field investigations, staff noticed that the parking spaces located on Oleander Avenue near the intersection are not fully utilized, allowing the motorists coming out of Tamarack Court and Tamarack Street to have better visibility of vehicles traveling on Oleander Avenue. However, to assure motorists will not park near this intersection blocking the view of the on-coming traffic, a minimum of 20' of red curb should be painted on all four legs of the intersection on Oleander Avenue (see exhibit).

## CONCLUSION:

The intersection of Oleander Avenue and Tamarack Court/Street received a total of 27 points out of a possible 100 points, where a minimum of 45 points are required to justify the installation of an all-way stop control. Therefore, staff does not recommend installation of all-way stop control at this intersection. However, staff recommends the installation of two stop signs, limit lines, and "STOP" legends, on Tamarack Court and Tamarack Street approaching Oleander Avenue to help address vehicular rights-of-way at the intersection. In addition, staff recommends reducing the available parking spaces via red curb to increase the available sight distance to motorists entering Oleander Street's right of way.

**FISCAL IMPACT:**

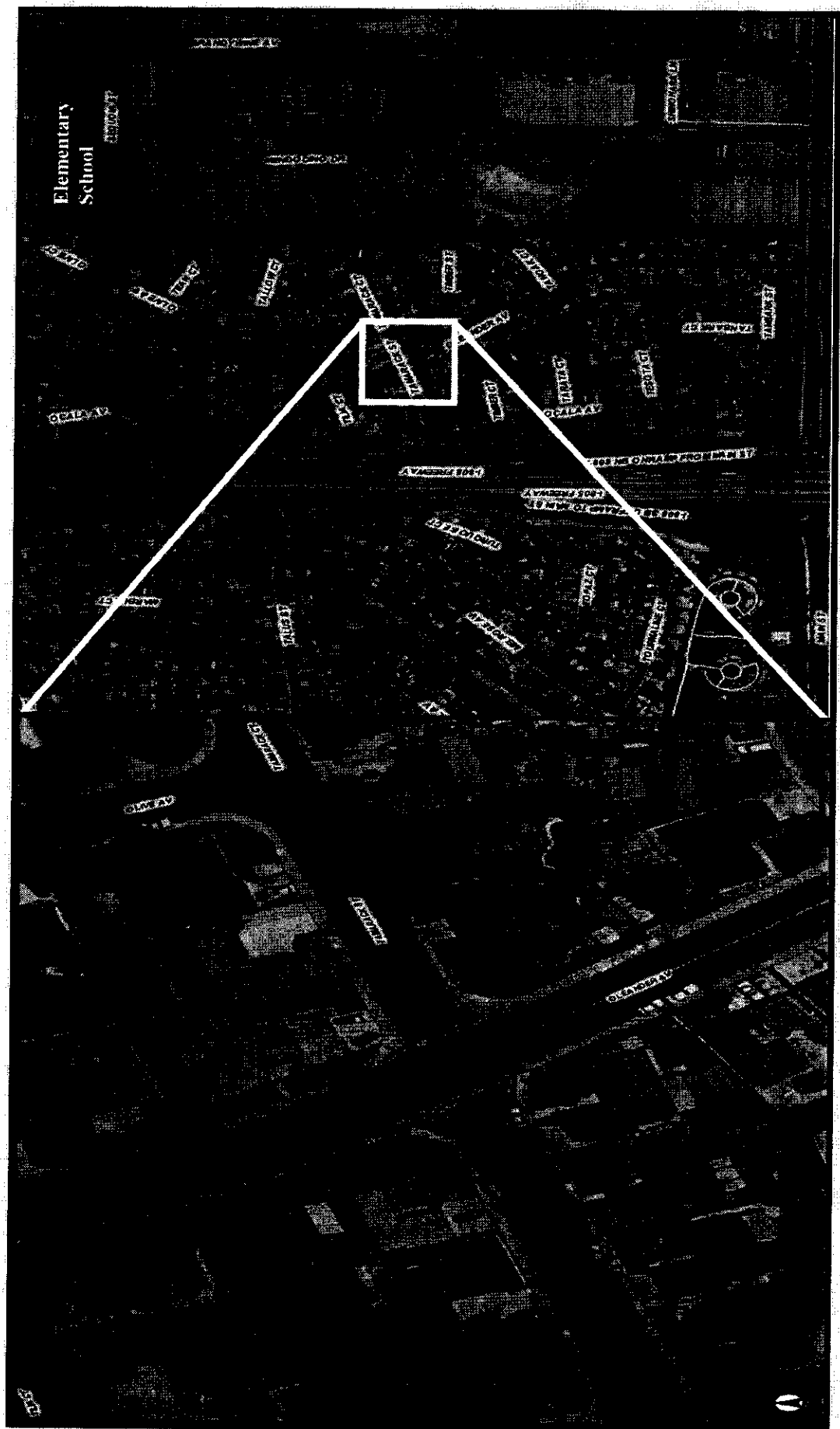
The estimated cost for installing two stop signs, painting limit lines, "STOP" legends, and red curb, at this intersection is \$1,000.00, and can be accommodated by the Public Works operating budget.

Attachments:

Location Map  
Proposed Improvements  
All-Way Stop Study  
Copy of letter of request  
Power Point Presentation



# Location Map



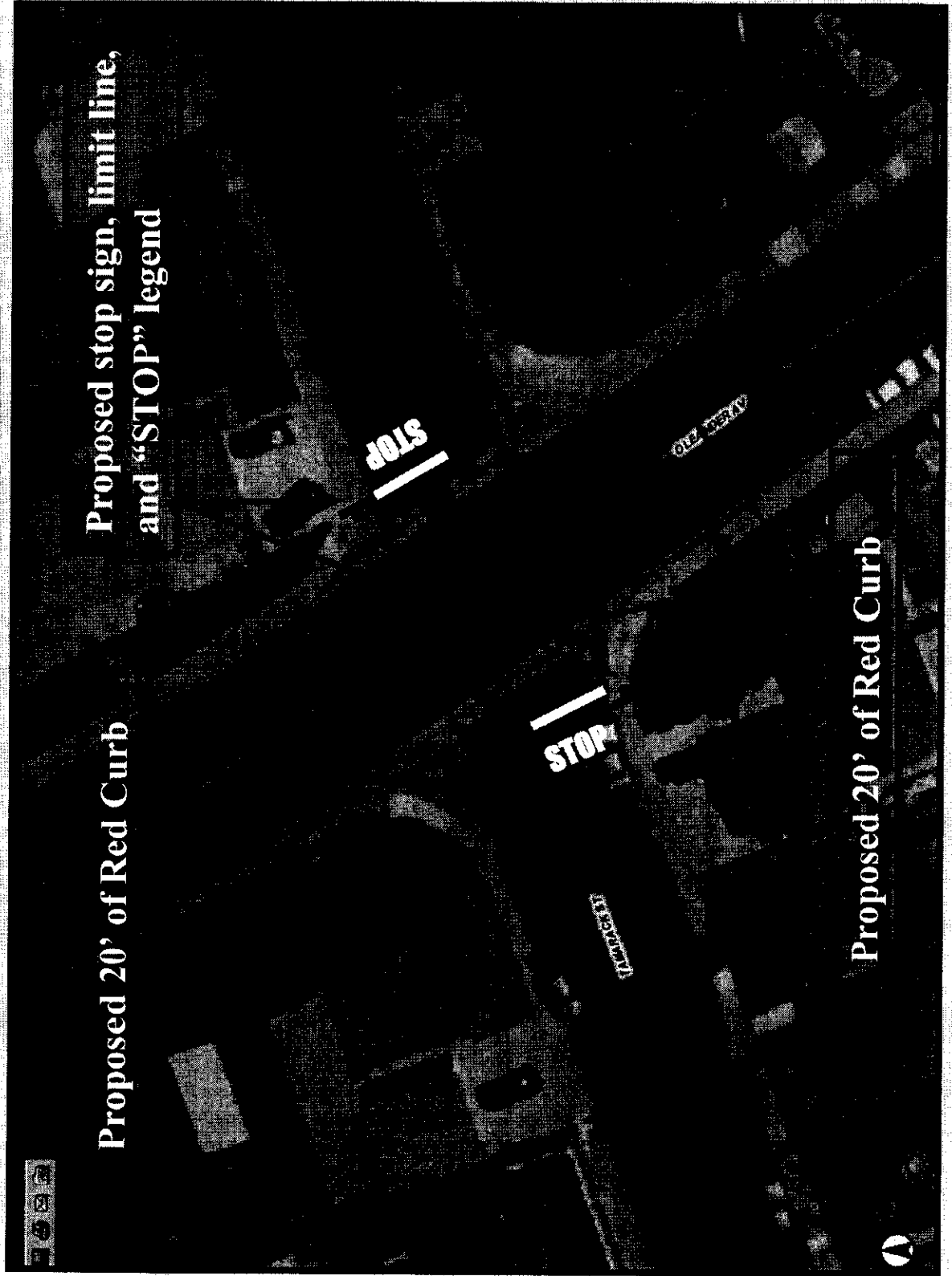


# Proposed Improvements

Proposed stop sign, limit line,  
and "STOP" legend

Proposed 20' of Red Curb

Proposed 20' of Red Curb



# ALL-WAY STOP WARRANT SUMMARY

LOCATION	<b>Oleander Ave. / Tamarack Court</b>		PAGE
DATE	<b>08/16/2007</b>		1 OF 6
POLICY NUMBER	<b>478-03</b>	EFFECTIVE DATE	<b>03/06/2001</b>

## GENERAL

Points are assigned to each of these warrants. The total points possible are 100. The installation of an all-way stop control is justified with a minimum of 45 points, unless:

### Case 1:

If Caltrans' criteria is met, the point system is not applicable.

### Case 2:

If any of the five criteria is met to the extent of 100% an all-way stop control intersection may be warranted even though the minimum number of points is not accumulated.

### Case 3:

If the following conditions are met:

(a) The street to be controlled is within a residence district as defined in Section 515 of the California Vehicle Code, and **No**

(b) The street to be controlled is classified a collector or is functioning as a collector, and **Yes**

(c) The subject intersection is not within 600 feet from the nearest controlled intersection along the collector, and **Yes**

(d) There is a parallel arterial highway that can be used as an alternative route, then **Yes**

The subject intersection shall receive a bonus of 10 points.

POINTS: **0**

## ALL-WAY STOP POINT SYSTEM CRITERIA:

### 1) ACCIDENT WARRANT: ( 25 points )

Five Points are assigned for each accident susceptible to correction by an all-way stop control during any 12-month period prior to the investigation date.

Total number of accidents correctible by all-way stop: **0**

( Maximum 25 points )

### 2) UNUSUAL CONDITION WARRANT: ( 21 points )

#### 1) Adjacent to school, fire station, playground, senior center and/or amusement park. (7 points maximum )

- |   |       |          |
|---|-------|----------|
| a) within 100' of the intersection.         |       | 7 points |
| b) between 101'-250' from the intersection. | 0 pts | 5 points |
| c) between 251'-400' from the intersection. |       | 3 points |
| d) within 500' of the intersection.         |       | 1 point  |



# ALL-WAY STOP WARRANT SUMMARY

LOCATION	<b>Oleander Ave. / Tamarack Court</b>		PAGE
DATE	<b>08/16/2007</b>		2 OF 6
POLICY NUMBER	478-03	EFFECTIVE DATE	03/06/2001

- 2) Any visibility obstruction including horizontal and/or vertical curves which result in limited stopping sight distance based on either the posted speed limit or the 85th tile speed, whichever is higher.  
(7 points maximum)

$$\frac{135}{240} \times 100 = 56.3\%$$

5 pts

- |   |          |
|---|----------|
| a) provides for less than 40% of the required sight distance.   | 7 points |
| b) provides for less than 50% of the required sight distance.   | 6 points |
| c) provides for less than 60% of the required sight distance.   | 5 points |
| d) provides for less than 70% of the required sight distance.   | 4 points |
| e) provides for less than 80% of the required sight distance.   | 3 points |
| f) provides for less than 90% of the required sight distance.   | 2 points |
| g) provides for less than 100 % of the required sight distance. | 1 point  |

- 3) An intersection leading to an arterial from an interior (circular) collector. 0 pts      2 points

- 4) Intersection with steep grades within 500' from the intersection on the downhill approach.

- |                          |          |
|--------------------------|----------|
| a) greater than 9% grade | 7 points |
| b) greater than 8% grade | 5 points |
| c) greater than 7% grade | 3 points |
| d) greater than 6% grade | 1 point  |
- Oleander = 7.30%**  
**Tamarack Ct. & Str. = 3.5% & 3.25%**

3 pts

- 5) Intersection is on "Suggested Route To School" and no other controlled crossing is located within 600'.  
(7 points maximum)

- |  |          |
|--|----------|
| a) intersection is 300' from school grounds. | 7 points |
| b) intersection is 400' from school grounds. | 5 points |
| c) intersection is 500' from school grounds. | 3 points |
| d) intersection is 600' from school grounds. | 1 point  |

0 pts

- 6) High approach speeds.

4 pts

- |   |          |
|---|----------|
| a) prevailing speeds are up to 5 mph higher than posted speed.      | 1 point  |
| b) prevailing speeds are up to 10 mph higher than posted speed.     | 4 points |
| c) prevailing speeds are more than 10 mph higher than posted speed. | 7 points |

**Speed limit (Oleander Ave.) = Posted at 25 mph (85th %tile of 34 mph)**

**Approach Speeds (Tamarack Ct./Str.): Unknown (prima facie of 25 mph)**

- 7) Adjacent to bus stop  
Public mailbox  
School bus drop-off

2 points  
2 points  
7 points

0 pts

( Maximum 21 points )

POINTS: 12

# **ALL-WAY STOP WARRANT SUMMARY**

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		03/06/2001

## **3) PEDESTRIAN VOLUME ( 20 points )**

Consideration is given to large numbers of pedestrians crossing the major street during the busiest hour of an average day.

Peak Hour: **2:30 - 3:30 pm**

Number of Pedestrians: 1

Pedestrians crossing major street, Total during the peak pedestrian hour

Volumes:	1-10	11-20	21-30	31-40	41-OVER
Points:	4	8	12	16	20

( Maximum 20 points )

POINTS: 4

(E) = Estimated

## **4) TRAFFIC VOLUME ( 24 points )**

Points are dependent upon the magnitude of vehicular volumes entering the intersection during the eight busiest hours of an average day.

Traffic Counts (circle eight highest hour volumes):

DIRECTION	600	700	800	900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	TOTAL
NB	-	250	250	-	-	-	-	-	-	200	200	-	-	-	-	-
SB	-	200	200	-	-	-	-	-	-	180	180	-	-	-	-	-
SUBTOTAL	-	450	450	-	-	-	-	-	-	380	380	-	-	-	-	-
EB	-	67	67	-	-	-	-	-	-	84	84	-	-	-	-	-
WB	-	48	48	-	-	-	-	-	-	60	60	-	-	-	-	-
SUBTOTAL	-	115	115	-	-	-	-	-	-	144	144	-	-	-	-	-
TOTAL	-	565	565	-	-	-	-	-	-	524	524	-	-	-	-	-
POINTS		1	1							1	1					

-3 POINTS ARE ASSIGNED PER HOUR WHEN TOTAL ENTERING VEHICULAR VOLUMES EXCEED 500 AND MINOR STREET VOLUMES (INCLUDING PEDESTRIANS) EXCEED 200.

-2 POINTS ARE ASSIGNED PER HOUR WHEN TOTAL ENTERING VOLUMES EXCEED 500 BUT MINOR STREET VOLUMES ARE LESS THAN 200, BUT MORE THAN 100.

-1 POINT IS ASSIGNED PER HOUR WHEN TOTAL ENTERING VEHICULAR VOLUMES EXCEED 500 BUT MINOR STREET VOLUMES ARE LESS THAN 100.

-1 POINT IS ASSIGNED PER HOUR WHEN TOTAL ENTERING VEHICULAR VOLUMES DO NOT MEET 500, BUT MINOR STREET VOLUMES EXCEED 200.

In residence districts as defined by Section 515 CVC, if the 85th percentile approach speed of the major street exceeds 35 miles per hour, the minimum vehicular volume warrants is 70% of the above requirements.

- Both Tamarack Ct. & Tamarack Str. are within the "Residential District"

( Maximum 24 points )

POINTS: 4

POINTS: 8

# ALL-WAY STOP WARRANT SUMMARY

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## 5) TRAFFIC VOLUME DIFFERENCE ( 10 POINTS )

All-way stops operate best when the major and minor street approach traffic volumes are nearly equal. Points shall be assigned in accordance with the following table:

$$\frac{\text{*24-Hour Minor St. Approach Volumes}}{\text{*24-Hour Major St. Approach Volumes}} \times 100 = \frac{1,440}{2,147} \times 100 = 67.1\%$$

PERCENTAGE	POINTS
95-100	10
85-94	9
75-84	8
65-74	7
55-64	6
45-54	5
35-44	4
25-34	3
15-24	2
5-14	1
0-4	0

( Maximum 10 points )

POINTS: 7

\*For T-intersections, the percent is the ratio of the minor street approach volume to the highest single leg approach volume on the major street multiplied by one hundred. Minor Street approach volume is estimated.

## CALTRANS CRITERIA (Chapter 4 CalTrans Traffic Manual)

Any of the following conditions may warrant a multi-way STOP sign installation, regardless of the point system:

- 1) Where traffic signals are warranted and urgently needed, the multi-way stop may be an interim measure that can be installed quickly to control traffic while arrangements are being made for the signal installation.
- 2) An accident problem, as indicated by five or more reported accidents within a 12 month period of a type susceptible to correction by a multi-way stop installation. Such accidents include right- and left-turn collisions as well as right-angle collisions.
- 3) Minimum traffic volumes - The total vehicular volume entering the intersection from all approaches must average at least 500 vehicles per hour for any 8 hours of an average day, and the combined vehicular and pedestrian volume from the minor street or highway must average at least 200 units per hour for the same 8 hours, with an average delay to minor street vehicular traffic of at least 30 seconds per vehicle during the maximum hour, but when the 85th percentile approach speed of the major street traffic exceeds 40 miles per hour ( \*\* ), the minimum vehicular volume warrant is 70 percent of the above requirements.

( \*\* ) This speed applies only to CalTrans Criteria

# ALL-WAY STOP WARRANT SUMMARY

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POLICY NUMBER	478-03	EFFECTIVE DATE	03/06/2001

## ALL-WAY STOP SUMMARY

INTERSECTION: Oleander Avenue Tamarack Court/Tamarack St.  
(Major) (Minor)

DATE INVESTIGATION WAS COMPLETED: August 16, 2007

TOTAL SCORE: 27 points out of a possible 100.  
The minimum required to justify an all-way stop control is 45 points.

## INTERSECTION DIAGRAM:



## ALL-WAY STOP WARRANT SUMMARY

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**RECOMMENDATIONS:**

This intersection received a total of 27 points of a possible 100 points, where a minimum of 45 points are required to justify the installation of all-way stop control. Therefore, this intersection does not warrant the installation of an all-way stop control.

**REMARKS:**

July 16, 2007

RECEIVED  
JUL 19 2007  
RECEIVED  
JUL 19 2007

Principal Civil Engineer  
City of Chula Vista – Traffic Engineering  
276 Fourth Avenue  
Chula Vista, CA 91910

Dear Principal Civil Engineer,

**This is my second letter to the City of Chula Vista formally requesting the installation of a 4-way stop sign at the intersection of Tamarack Court and Oleander Avenue.**

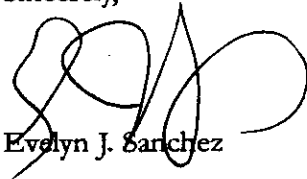
This intersection is located at the top of a hill and is a blind intersection for drivers on Tamarack Court and Oleander Avenue. It is very common for drivers on Oleander Avenue to drive at excessively high speeds, well above 25 mph.

I purchased my home in November 2005, located on the southwest corner of this intersection. Since that time I have had numerous near-misses attempting to back out from my driveway and one of our vehicles parked in front of our house was rear-ended (hit and run) by a driver turning onto Tamarack Court from Oleander Avenue at an excessively high speed.

As a parent, I am also concerned for the safety of the children in this neighborhood. Valle Lindo Elementary School is located a few blocks from this dangerous intersection where children are seen regularly walking to and from school every day. Children regularly play in this neighborhood, oftentimes in the street.

There is nothing slowing down motorists on Oleander Avenue and that is the real problem. Please help our neighborhood!

Sincerely,



Evelyn J. Sanchez

502 TAMARACK COURT  
CHULA VISTA, CA 91911-6010  
(619) 421-9971